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10/567,548	02/08/2006	Takashi Yoshimine	OMY0058	9268

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EXAMINER	
LERNER, MARTIN	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,548	YOSHIMINE, TAKASHI	
	Examiner	Art Unit	
	MARTIN LERNER	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 to 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 to 10, 12, 14, and 16 to 18* is/are rejected.

7)☒ Claim(s) *11,13 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

At ¶[0040], "Fig. 1" should be "Fig. 2".

At ¶[0046], there needs to be a reference to Step ST706 of Fig. 7.

At ¶[0064], "an hearing" should be "a hearing".

At ¶[0066], leg portion "71" should be leg portion "79". (See Fig. 13.)

At ¶[0066], leg portion "70" should be leg portion "79". (See Fig. 13.)

At ¶[0067], "may be" should be "may find it".

At ¶[0073], it is conventional for the Brief Description of the Drawings to be placed after the Summary of the Invention. It is suggested that the Brief Description of the Drawings be moved to a position between ¶[0026] and ¶[0027], and the ¶'s be renumbered accordingly.

Appropriate correction is required.

2. The abstract of the disclosure is objected to because it should be one paragraph only. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3, 4, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hayashi (JP '250)* in view of *Sukeda et al*.

Concerning independent claims 1 and 18, *Hayashi (JP '250)* discloses an apparatus and method for making a mobile phone capable of communication between an audibly handicapped person and a normal hearing person, comprising:

"picture capture means for capturing pictures of a first user and a second user" – an image is received from video camera input section 9 of a mobile phone; a video camera obtains an image for analyzing a motion of a speaker's lips (Abstract; ¶[0007] - ¶[0008]); implicitly, there are video cameras for both mobile phones when two people communicate ("of a first user and a second user");

"first conversion means for converting first picture information of the first user, whose picture has been captured, into first information that the second user is capable of perceiving" – image analysis section 8 of this terminal analyzes an image from video camera input section 9, and converts the image into character information and voice information corresponding to the image; an image-analysis means analyzes a motion of a speaker's lips obtained from the video camera, and changes into text and/or speech information (Abstract; ¶[0007] and ¶[0017]);

"second conversion means for converting second picture information of the second user, whose picture has been captured, into second information that the first user is capable of perceiving" – image analysis section 8 of this terminal analyzes an

image from video camera input section 9, and converts the image into character information and voice information corresponding to the image; an image-analysis means analyzes a motion of a speaker's lips obtained from the video camera, and changes into text and/or speech information (Abstract; ¶[0007] and ¶[0017]); conversion is performed for both people communicating with one another;

"first display means, having a first display screen, for displaying the first information, which has been converted, on the first display screen" – a display section 4 outputs the converted information; text and speech information are displayed on display 4 as alphabetic character text information (Abstract; ¶[0018]);

"second display means, for displaying the second information, which has been converted, on the second display screen" – a display section 4 outputs the converted information; text and speech information are displayed on display 4 as alphabetic character text information (Abstract; ¶[0018]); display is performed for both people communicating with one another.

Concerning independent claims 1 and 18, the only element omitted by *Hayashi (JP '250)* is a second display means "having a second display screen capable of being placed at an angle different from the angle of the first display screen". *Hayashi (JP '250)* discloses two mobiles phones that translate between speech and image formats so that at least one hearing-impaired person can communicate, and although two mobile phones can be positioned so that their screens are at different angles to one another, implicitly, the angles of the two display screens are not expressly disclosed. However, *Sukeda et al*. teaches an analogous art electronic interpreter for interpreting

sentences between a first person and a second person, where the electronic interpreter can be folded so that displays are arranged in a manner that the display for one user and the display for the companion oppose each other. (Column 4, Lines 57 to 62: Figure 1) An objective is to provide for interpreting sentences between a first person and a second person that is compact for portable use and is simple to use that permits a companion of a conversation to reply to the user in a manner understandable to the user. (Column 1, Lines 45 to 56) It would have been obvious to one having ordinary skill in the art to utilize the displays of mobile phones capable of making speech communication between an audibly handicapped person and a normal hearing listener of *Hayashi (JP '250)* in a configuration where the two displays are capable of being placed at an angle different from one another as taught by analogous art of *Sukeda et al*. for a purpose of providing a compact, portable, and easy to use apparatus and method of communicating between a user and a companion.

Concerning claim 3, *Hayashi (JP '250)* discloses a display section 4 outputs the converted information; text and speech information are displayed on display 4 as alphabetic character text information ("one of character information . . . .") (Abstract; ¶[0018]).

Concerning claim 4, *Hayashi (JP '250)* discloses that image analysis section 8 converts the image into voice information corresponding to the image; speech information is outputted by loudspeaker 6 as voice (Abstract; ¶[0018]).

5. Claims 2 and 5 to 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hayashi (JP '250)* in view of *Sukeda et al*. as applied to claim 1 above, and further in view of *Basson et al*.

Concerning claim 2, *Hayashi (JP '250)* discloses converting image information of the shape of lips into text or audio so that a hearing person can communicate with a non-hearing person, but omits sound collection means and conversion means for converting sound. However, *Basson et al*. teaches a method and apparatus for presenting images representative of an utterance with corresponding decoded speech, where a lip reading assistant 100 has a visual feature extractor 102 and an automatic speech recognition (ASR) engine 104. ASR engine 104 includes an acoustic feature extractor for converting acoustic speech signals into corresponding textual output, and is operatively connected to display 108 for visually indicating the decoded textual speech to a hearing-impaired user. (Column 3, Lines 19 to 35: Figure 1) An objective is to permit a hearing-impaired person to quickly and easily ascertain the relationship between body movements used to represent the utterance and corresponding decoded speech output. (Column 1, Lines 45 to 61) It would have been obvious to one having ordinary skill in the art to provide sound collection means and means for converting sound as taught by *Basson et al*. in an apparatus and method for making speech communication between an audibly handicapped person and a normal hearing person of *Hayashi (JP '250)* for a purpose of permitting a hearing-impaired person to quickly and easily improve comprehension of an utterance.

Concerning claims 5 and 6, *Basson et al*. teaches that display 108 has first and second areas for displaying text 114 and animated images 116, 118, 120 of facial movements. (Column 5, Lines 36 to 41: Figure 1) Each of the images has time information associated therewith which can be subsequently used to synchronize a particular image of animation with the decoded speech text from ASR engine 104. (Column 4, Lines 54 to 57: Figure 1)

Concerning claim 7, *Basson et al*. teaches an embodiment where display 108 has first and second areas for displaying text 114 and sign information 116, 118, 120. (Column 8, Line 31 to Column 9, Line 5: Figure 4)

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Hayashi (JP '250)* in view of *Sukeda et al*. as applied to claim 1 above, and further in view of *Ohgami et al*.

Sukeda et al. discloses an analogous art electronic interpreter, where first and second displays 102, 103 have first and second end portions that are connected by a hinge so that the first display 102 and the second display 103 may be folded together (Figure 1), but omits only "that the second display screen is capable of being twisted". However, *Ohgami et al*. teaches a known configuration for a flat panel display, where the display rotates in a twisted position for twisting the flat panel display unit. (Abstract: Figures 12 to 15) An objective is to permit an operator to show a display screen to an neighboring operator. (Column 1, Lines 22 to 27) It would have been obvious to one having ordinary skill in the art to provide two displays of *Sukeda et al*. that have an

addition capability of twisting relative to one another as taught by *Ohgami et al*. so that one operator can show the display screen to a neighboring operator.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Hayashi (JP '250)* in view of *Sukeda et al*. as applied to claim 1 above, and further in view of *Abe et al*.

Hayashi (JP '250) discloses converting image information of the shape of lips into text or audio so that a hearing person can communicate with a non-hearing person, but omits storage, reproduction, and trick play means for performing trick play operation on stored information. However, *Abe et al*. teaches a sign language learning system and method, where speech, sign-language, and facial expression are input and stored, and then output on a display output device and a speech output device. Specifically, a display control part of a display output device has input/output areas 714, 716 for designating repetition of display and retardation of a display speed. (Column 4, Lines 50 to 59: Figures 1, 7, and 8) At least a "slow" speed repetition is "trick play operation". An objective is to provide an efficient sign-language learning system and method in a form satisfying the requirement of the individual learner. (Column 1, Line 65 to Column 2, Line 7) It would have been obvious to one having ordinary skill in the art to provide storage, reproduction, and trick play means as taught by *Abe et al*. in an apparatus and method for providing speech communication between an audibly handicapped person and a normal hearing person of *Hayashi (JP '250)* for a purpose or providing a feature for efficiently learning sign language.

8. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hayashi (JP '250)* in view of *Sukeda et al*. and *Basson et al*. as applied to claims 1 and 2 above, and further in view of *Cason*.

Basson et al. teaches utilizing ASR engine 104 to recognize speech, but omits the feature of voice activity detection including measurement means for measuring a sound pressure level or noise level of sound from a user, setting means for setting a threshold value of the sound pressure level or noise level, and execution means for causing a conversion means to execute when the measured sound pressure level or noise level is equal to or larger than the threshold value. However, it is well known to include a voice activity detector in speech recognition systems so that a speech recognition operation is only executed when voice is detected. Specifically, *Cason* teaches a system for detecting voice activity if a measured energy level ("a sound pressure level or a noise level") for a frame exceeds a specified threshold. An average noise level serves as a floor estimate for a signal. (Abstract; Column 5, Lines 3 to 10; Column 6, Lines 1 to 9) Implicitly, a threshold is at least set at some fixed level by *Cason*. An objective is to detect voice activity for voice recognition systems so that periods of silence can be distinguished from periods of speech. (Column 1, Lines 10 to 18; Column 1, Lines 48 to 57) It would have been obvious to one having ordinary skill in the art to provide a voice activity detection feature as taught by *Cason* for an automatic speech recognition engine of *Basson et al*. for a purpose of distinguishing periods of silence from periods of speech for voice recognition systems.

9. Claims 10, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hayashi (JP '250)* in view of *Sukeda et al*. and *Basson et al*. as applied to claims 1, 3, and 4 above, and further in view of *Nakamura*.

Basson et al. discloses capturing and associating visual features of lips and text, but omits storing and capturing pictures of the lips, and then comparing a picture pattern of the lips so as to select one picture pattern corresponding to a captured picture pattern of the lips, and extracting character information corresponding to the selected picture pattern. That is, *Basson et al*. suggests associating images of lips and text, but does not recognize text from lip reading. However, *Nakamura* teaches a method of recognizing speech using a lip image, where parameters are extracted and stored as word templates based on outlines of lip motion, a lip pattern is input from a camera, and lip data are correlated with word templates so as to recognize speech. (Abstract: Figure 1) An objective is to provide speech recognition using a lip image that can be performed in a small-sized computer having small memory capacity. (Column 1, Lines 35 to 41) It would have been obvious to one having ordinary skill in the art to provide a lip reading system of *Nakamura* in an apparatus and method of *Basson et al*. for a purpose of providing lip reading that can be performed in a small-sized computer having a small memory capacity.

Allowable Subject Matter

10. Claims 11, 13, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Haskell et al., Weaver et al., Curry et al., and Liebermann disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN LERNER whose telephone number is (571)272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin Lerner/
Primary Examiner
Art Unit 2626
July 10, 2009